

LOAD CRITERIA

1. STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE, 2012 EDITION AND INTERNATIONAL BUILDING CODE, 2012 EDITION.

2. USE GROUP CLASSIFICATION: BUSINESS B

3. CLASSIFICATION OF CONSTRUCTION - TYPE IB, NON-COMBUSTIBLE, PROTECTED (EXISTING)

4. RISK CATEGORY: IV

5. DESIGN LIVE LOADS:

ROOF

20 PSF

MECHANICAL\*

150 PSF

6. DESIGN SNOW LOAD:

GROUND SNOW LOAD,

Pg

30 PSF

FLAT ROOF SNOW LOAD,

Pf

25 PSF

EXPOSURE FACTOR,

Ce

0.9

ROOF THERMAL FACTOR,

Ct

1.1

IMPORTANCE FACTOR,

Is

1.2

7. DESIGN WIND LOADS:

BASIC WIND SPEED,

V

115 MPH (THREE SECOND GUST)

EXPOSURE B

INTERNAL PRESSURE COEFF

Gcpi

0.18 PLUS OR MINUS

COMPONENTS AND CLADDING WIND LOADS

WALLS ZONE	EFFECTIVE WIND AREA (SQ FT)	PRESSURE (PSF)
4	10	+21.8 / -23.6
4	20	+20.8 / -22.6
4	50	+19.5 / -21.3
4	100	+18.6 / -20.4
5	10	+21.8 / -29.0
5	20	+20.8 / -27.1
5	50	+19.5 / -24.6
5	100	+18.6 / -22.6

ROOF ZONE	EFFECTIVE WIND AREA (SQ FT)	PRESSURE (PSF)
1	10	+16.0 / -23.8
1	20	+16.0 / -23.2
1	50	+16.0 / -22.4
1	100	+16.0 / -21.8
2	10	+16.0 / -39.9
2	20	+16.0 / -35.7
2	50	+16.0 / -30.1
2	100	+16.0 / -25.8
3	10	+16.0 / -60.1
3	20	+16.0 / -49.8
3	50	+16.0 / -36.1
3	100	+16.0 / -25.8

CORNER AND EDGE ZONES ARE THREE FEET WIDE.

5. DESIGN SEISMIC LOADS ARE BASED ON THE FOLLOWING DATA:

MAPPED SHORT PERIOD SPECTRAL RESPONSE ACCELERATION,	Ss 0.28
MAPPED 1-SEC PERIOD SPECTRAL RESPONSE ACCELERATION,	S1 0.07
SHORT PERIOD DESIGN SPECTRAL RESPONSE ACCELERATION,	Sds 0.294
1-SEC PERIOD DESIGN SPECTRAL RESPONSE ACCELERATION,	Sd1 0.112
RISK CATEGORY IV	
SEISMIC DESIGN CATEGORY C	
SITE CLASS D	
BASIC STRUCTURAL SYSTEM	CONCRETE MASONRY WALLS
BASIC SEISMIC-FORCE-RESISTING SYSTEM	ORDINARY REINFORCED CONCRETE MASONRY WALLS
RESPONSE MODIFICATION FACTOR,	R = 2
DEFLECTION AMPLIFICATION FACTOR,	Cd = 1.75
IMPORTANCE FACTOR	Is = 1.5
SEISMIC RESPONSE COEFFICIENT	Cs = 0.221
ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE
DESIGN BASE SHEAR	Cs x W = 11.0 KIPS

FOUNDATIONS

1. ALL UNSUITABLE FOUNDATION MATERIAL MUST BE REMOVED WITH FOOTINGS RESTING ON SOIL WITH A MINIMUM BEARING CAPACITY OF 2,000 PSF UNLESS OTHERWISE INDICATED. FOOTINGS MUST BE LOWERED AS REQUIRED TO OBTAIN SUITABLE BEARING. BEARING CAPACITY OF FOOTING SUBGRADE MUST BE DETERMINED BY GEOTECHNICAL ENGINEER.

2. NO FOUNDATION CONCRETE SHALL BE INSTALLED UNTIL ALL FOUNDATION WORK HAS BEEN COORDINATED WITH UNDERGROUND UTILITIES.

CONCRETE

1. CONCRETE STRENGTH:

ALL CONCRETE NOT OTHERWISE SPECIFIED

f'c = 4000 psi

FOOTINGS

f'c = 3000 psi

2. REINFORCING BARS

ASTM A 615 GRADE 60, DEFORMED

Fy = 60 KSI

3. DETAIL AND PLACE REINFORCEMENT IN ACCORDANCE WITH ACI 315.99 UNLESS NOTED OTHERWISE. TENSION DEVELOPMENT LENGTHS MUST BE 31 INCHES. TENSION LAP SPLICES MUST BE 40 INCHES.

4. PROVIDE CONCRETE COVER FOR REINFORCING AS SPECIFIED IN TABLE 3.3.2.3 OF ACI 301-10, UNLESS OTHERWISE INDICATED. SECURELY PLACE REINFORCEMENT TO PREVENT DISPLACEMENT DURING CONCRETE PLACEMENT.

5. PROVIDE DOWELS TO MATCH REINFORCEMENT SIZE AND SPACING INDICATED FOR ALL STRUCTURAL ELEMENTS, UNLESS OTHERWISE INDICATED.

6. SEE ARCHITECTURAL, MECHANICAL, FIRE PROTECTION, AND ELECTRICAL DRAWINGS FOR LOCATIONS OF OPENINGS AND SLEEVES IN SLABS AND WALLS. SPREAD REINFORCEMENT AT OPENINGS AND SLEEVES. DO NOT CUT REINFORCEMENT.

7. CHAMFER EDGES OF PERMANENTLY EXPOSED CONCRETE SURFACES 3/4-INCH, UNO.

8. SLAB AND BEAM MUST BE CAST MONOLITHICALLY.

MASONRY

1. MASONRY STRENGTH

MASONRY SYSTEM COMPRESSIVE STRENGTH

f'm = 1500 psi

TYPE S MORTAR

GROUT COMPRESSIVE STRENGTH

2000 psi

2. REINFORCEMENT MUST BE LAP SPLICED 48 BAR DIAMETERS AND WALLS MUST BE FULLY GROUTED.

3. BRACE CMU WALLS DURING CONSTRUCTION UNTIL FLOOR OR ROOF STRUCTURE IS ERECTED AND CONNECTED TO WALL

EXISTING STRUCTURES

1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, ETC., NECESSARY FOR THE PROPER CONSTRUCTION AND ALIGNMENT OF THE NEW PORTIONS OF THE STRUCTURE TO THE EXISTING STRUCTURE. THE CONTRACTOR SHALL VERIFY ALL MEASUREMENTS NECESSARY FOR PROPER FABRICATION AND ERECTION OF ALL STRUCTURAL MEMBERS.

2. BEFORE PROCEEDING WITH ANY WORK WITHIN OR ADJACENT TO THE EXISTING STRUCTURE, THE CONTRACTOR SHALL BECOME FAMILIAR WITH EXISTING CONDITIONS. DURING THE PROCESS OF CONSTRUCTION, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE INTEGRITY OF THE EXISTING STRUCTURE WHERE THE EXISTING STRUCTURE IS MODIFIED TO ACCOMMODATE NEW CONSTRUCTION AND TO PROTECT FROM DAMAGE THOSE PORTIONS OF THE EXISTING STRUCTURE, WHICH ARE TO REMAIN.

3. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE OF ANY EXISTING CONDITIONS THAT DIFFER FROM THOSE INDICATED ON THE DRAWINGS.

SPECIAL INSPECTIONS

1. SPECIAL INSPECTIONS WILL BE PERFORMED IN ACCORDANCE WITH THE STATEMENT OF SPECIAL INSPECTIONS

2. OWNER, OR ARCHITECT/STRUCTURAL ENGINEER OF RECORD ACTING AS THE OWNER'S AGENT, SHALL DIRECTLY EMPLOY AND PAY FOR SERVICES OF THE SPECIAL INSPECTORS TO PERFORM REQUIRED SPECIAL INSPECTIONS.

3. THE FOLLOWING GENERAL TYPES OF WORK REQUIRE SPECIAL INSPECTION: (REFER TO STATEMENT OF SPECIAL INSPECTIONS FOR DETAILED INSPECTION REQUIREMENTS)

FOUNDATIONS  
CONCRETE  
REINFORCING STEEL  
FORMWORK  
MASONRY

AECOM

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FIRE PUMP  
RELOCATION  
CARILION ROANOKE  
COMMUNITY HOSPITAL  
ROANOKE, VIRGINIA

REV	DATE	DESCRIPTION	APP
PROJECT NO: 60336645		PROJECT PHASE: NEW	
ISSUE DATE: FEBRUARY 10, 2015			
DESIGNED BY:		DRAWN BY:	
CHECKED BY:		SUBMITTED BY: SCG	

STRUCTURAL

GENERAL NOTES

S-001

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RF: NONE IMG: NONE